What is claimed is:

1.   In a receiver that receives a modulated signal having
multiple levels and having an equalizer with plural
equalization settings for compensating for distortion in
the received signal, a method of selecting one of the
plural equalization settings that provides an optimum
compensation for the distortion, comprising:

    (A)   for each one of the equalizer settings:

            setting the equalizer to the one setting;

            defining valid regions encompassing each of the
multiple levels of said modulated signal and invalid
regions not encompassing the multiple levels;

            computing a first metric comprising a count of
samples within said invalid regions;

            computing a second metric comprising
differences less than a predetermined threshold between
pairs of samples falling within the same valid region;

            combining the first and second metrics to
produced a combined metric for said one setting;

    (B)   choosing the equalizer setting corresponding to
the best combined metric.

2.   The method of Claim 1 wherein said invalid regions
lie generally between the valid regions.

3.   The method of Claim 1 wherein each valid region
includes a range of amplitudes within a predetermined
fraction of the amplitudes of the corresponding multiple
level.

4. The method of Claim 1 wherein each invalid region includes a range of amplitudes deviating by more than a predetermined fraction of a peak amplitude from the corresponding multiple level.

5. The method of Claim 3 wherein the predetermined threshold corresponds to a fraction less than the predetermined fraction.

6. The method of Claim 5 wherein the predetermined fraction corresponds to 10% and the predetermined threshold corresponds to 5%.

7. The method of Claim 1 wherein each of the pairs of samples falling within the valid region comprise two samples occurring successively.

8. The method of Claim 7 wherein a sample intervening chronologically between the two successive samples but not falling within the same valid region is ignored for purposes of determining successive samples.

9. The method of Claim 1 wherein the first metric is a measure of the deviation of samples from valid signal levels of the multistate signal and the second metric is a measure of the consistency of samples about each valid signal level.

10. The method of Claim 1 wherein the combined metric is a difference between said first and second metrics.

1   11. The method of Claim 10 wherein the best combined
2   metric is the least positive or most negative metric.

1   12. The method of Claim 1 wherein the combined metric is
2   a ratio between said first and second metrics.

1   13. The method of Claim 1 wherein each equalizer setting
2   corresponds to a different transfer function of the
3   equalizer.

1   14. The method of Claim 1 wherein each transfer function
2   corresponds to a unique set of poles and zeroes
3   corresponding to a particular reactance.

1   15. The method of Claim 1 wherein the step of computing
2   the second metric is carried out for sample pairs in each
3   of the valid regions, the number of differences not
4   exceeding the threshold being summed across all valid
5   regions.

1   16. A receiver that receives a modulated signal having
2   multiple levels, said receiver comprising:
3   an equalizer with plural equalization settings for
4   compensating for distortion in the received signal; and
5   an adapter for selecting one of the plural
6   equalization settings that provides an optimum
7   compensation for the distortion at the output of the
8   equalizer, said adapter comprising:
9   means for setting the equalizer to the one
10 setting;

11   means for defining valid regions encompassing

12 each of the multiple levels of said modulated signal and

13 invalid regions not encompassing the multiple levels;

14   means for computing a first metric comprising a

15 count of samples within said invalid regions;

16   means for computing a second metric comprising

17 differences less than a predetermined threshold between

18 pairs of samples falling within the same valid region;

19   means for combining the first and second

20 metrics to produced a combined metric for said one

21 setting and choosing the equalizer setting corresponding

22 to the best combined metric.

1   17.   The receiver of Claim 16 wherein said invalid

2 regions lie generally between the valid regions.

1   18.   The receiver of Claim 16 wherein each valid region

2 includes a range of amplitudes within a predetermined

3 fraction of the amplitudes of the corresponding multiple

4 level.

1   19.   The receiver of Claim 16 wherein each invalid region

2 includes a range of amplitudes deviating by more than a

3 predetermined fraction of a peak amplitude from the

4 corresponding multiple level.

1   20.   The receiver of Claim 18 wherein the predetermined

2 threshold corresponds to a fraction less than the

3 predetermined fraction.

1   21.   The receiver of Claim 20 wherein the predetermined
2   fraction corresponds to 10% and the predetermined
3   threshold corresponds to 5%.

1   22.   The receiver of Claim 16 wherein each of the pairs
2   of samples falling within the valid region comprise two
3   samples occurring successively.

1   23.   The receiver of Claim 22 wherein a sample
2   intervening chronologically between the two successive
3   samples but not falling within the same valid region is
4   ignored for purposes of determining successive samples.

1   24.   The receiver of Claim 16 wherein the first metric is
2   a measure of the deviation of samples from valid signal
3   levels of the multistate signal and the second metric is
4   a measure of the consistency of samples about each valid
5   signal level.

1   25.   The receiver of Claim 16 wherein the combined metric
2   is a difference between said first and second metrics.

1   26.   The receiver of Claim 25 wherein the best combined
2   metric is the least positive or most negative metric.

1   27.   The receiver of Claim 16 wherein the combined metric
2   is a ratio between said first and second metrics.

1   28. The receiver of Claim 16 wherein each equalizer

2   setting corresponds to a different transfer function of

3   the equalizer.

1   29. The receiver of Claim 28 wherein each transfer

2   function corresponds to a unique set of poles and zeroes

3   corresponding to a particular reactance.